REMARKS

I. General

The issues outstanding in the instant application are as follows:

- Claims 1 and 6 are objected to for informalities;
- Claims 1-6, 8, 11 and 13-30 stand rejected under 35 U.S.C. §103(a) as unpatentable over Reed et al., U.S. Pat. No. 5,425,000 (hereinafter *Reed*) in view of Eidson et al., U.S. Pat. No. 6,256,477 (hereinafter *Eidson*);
- Claim 7 stands rejected under 35 U.S.C. §103(a) as unpatentable over *Reed* in view of *Eidson*, as applied to claim 6, and further in view of Sanderford et al., U.S. Pat. No. 5,668,828 (hereinafter *Sanderford*);
- Claim 9 stands rejected under 35 U.S.C. §103(a) as unpatentable over *Reed* in view of *Eidson*, as applied to claim 6, and further in view of Lempiainen, U.S. Pat. No. 6,510,312 (hereinafter *Lempiainen*);
- Claim 10 stands rejected under 35 U.S.C. §103(a) as unpatentable over *Reed* in view of *Eidson*, as applied to claim 6, and further in view of Gutleber, U.S. Pat. No. 4,457,007 (hereinafter *Gutleber*); and
- Claim 12 stands rejected under 35 U.S.C. §103(a) as unpatentable over *Reed* in view of *Eidson*, as applied to claim 6, and further in view of Gould et al., U.S. Pat. No. 5,113,400 (hereinafter *Gould*).

Applicant hereby traverses the outstanding rejections of the claims, and requests reconsideration and withdrawal of the outstanding rejections in light of the remarks contained herein. Claims 1 and 6 are amended above to correct typographical errors. Claims 1 and 6 have only been amended for cosmetic purposes and not for any substantial reasons related to patentability. No new matter has been added by these amendments. Claims 1-30 are currently pending in this application.

II. Objections to the Claims

The Office Action objects to informalities found in claims 1 and 6. The Office Action indicates that there is insufficient antecedent basis for claim 1 recitation "said gain control circuit." Claim 1 is amended above to address this objection, replacing the word "circuit" with the word "system." The Office Action suggests that Applicant delete the word "of" in line 3 of claim 6. Applicant has amended claim 6 in accordance with this suggestion.

III. Rejections under 35 U.S.C. §103(a)

As noted above claims 1-6, 8, 11 and 13-30 stand rejected under 35 U.S.C. §103(a) as unpatentable over *Reed* in view of *Eidson,* claim 7 stands rejected as unpatentable over *Reed* in view of *Eidson* and *Sanderford,* claim 9 stands rejected as unpatentable over *Reed* in view of *Eidson* and *Lempiainen*, claim 10 stands rejected as unpatentable over *Reed* in view of *Eidson*, and *Gutleber*, and claim 12 stands rejected as unpatentable over *Reed* in view of *Eidson* and *Gould*. Applicant respectfully traverses these rejections for at least the reasons advanced below.

A. *Reed* is Non-analogous Art

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992) and M.P.E.P. §2141.01(a). Applicant respectfully contends that *Reed* is non-analogous prior art. One endeavoring in the field of directing automatic gain control for RF data transmissions in response to tabulated interference statistics would not be expected to look to the art of rejection of self-made interference in sonar systems to address particular problems. Therefore, since all of the rejections in the present Office Action rely upon the teachings of *Reed*, Applicant respectfully contends that outstanding obviousness rejections of claims 1-30 should be withdrawn.

B. Rejections of the independent claims are inconsistent.

In addressing independent claim 1 (and independent claim 13) the Office Action states: "Reed et al. discloses … means for detecting statistical information about periodicity and duration of RF interference" (emphasis added). In contrast, while addressing independent claim 20, the Office Action states: "Reed et al. does not however disclose means for gathering statistical information about RF interference" (emphasis added). Applicant respectfully contends that these two statements are inconsistent, and thereby fail to comport with Office policy, in that the Office Action has not "clearly articulate[d] any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise respond completely at the earliest opportunity," M.P.E.P. §706. Applicants therefore request that the Examiner clarify the grounds for rejection, in a non-final

Office Action, in order that Applicant may have a full and fair opportunity to explore the patentability of the claims.

With respect to independent claim 13 the Office Action states claim 13 "inherits" the limitations of independent claim 1. Similarly, with respect to independent claim 26 the Office Action states claim 26 "inherits" the limitations of independent claim 20. Applicant respectfully contends that one independent claim cannot inherit the limitations of another independent claim. Further, Applicant respectfully contends that claim 13 has significantly different limitation than claim 1 and that claim 26 has significantly different limitations from claim 20. Therefore, Applicant respectfully requests that the Examiner clarify any remaining grounds for rejection for independent claims 13 and 26, in a non-final Office Action, in order that Applicant may have a full and fair opportunity to explore the patentability of claims 13-19 and 26-30.

C. A Prima Facie case of obviousness has not been established.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. §2143. Without conceding the second criterion, Applicant asserts that the rejection does not satisfy the first and third criteria.

1. The recited combination does not teach or suggest all limitations.

a. Claims 1-19

In addressing claims 1-19, the Office Action admits that *Reed* does not teach "means for tabulating statistical information about periodicity and duration of RF interference". The Office Action attempts to cure this deficiency by introducing *Eidson*, which the Office Action alleges to teach "means for tabulating statistical information about RF interference." However, this combination, as presented, does not teach or suggest all limitations of the claimed invention.

Independent claim 1 recites "means for tabulating statistical information about periodicity and duration of RF interference." Similarly, independent claim 13 recites "gathering statistical information about periodicity and duration of RF interference." The Office Action relies on *Reed* as teaching these limitations. However, as pointed out above the disclosure of *Reed* is directed toward "Spatial Rejection of Direct Blast Interference in Multistatic Sonars" (title). *Reed* makes no mention of detecting radio frequency (RF) interference and nothing in *Reed* would suggest the detection of any sort of RF signal or interference. Further, *Reed* fails to teach anything about detecting a periodicity and/or duration information about the sonar sound interference it does detect. The claims of *Reed* cited by the Office Action only teaches "providing a detection signal indicating the presence of said transient, and a variable gain means responsive to said detection signal for applying said variable gain to said beamformer output signals" (column 7, lines 10-13).

As noted above, *Eidson* is relied upon by the Office Action as teaching "means for tabulating statistical information about RF interference." However a review of *Eidson*, particularly FIGURE 4, indicates that *Eidson* only discloses making a series of measurements of received signal strength indications (RSSIs) and storing those for use in calculating a one time carrier interference-to-noise ratio (CINR), which is in turn adjusted and compared to a threshold to determine whether a frequency switch is to be made. Thus, *Eidson* fails to teach "tabulating statistical information about RF interference" and a word search of the text of *Eidson* fails to uncover any mention of tables or tabulation.

Additionally, claim 1 recites "means operable, at least in part, to certain tabulated statistics for directing the gain of said gain control system." Similarly, independent claim 13 recites "directing the gain of said gain control circuit under at least partial control of said gathered statistical information to mitigate effects of said interference." The Office Action fails to address at least the emphasized portion of the above limitations. Applicant respectfully contends that neither *Reed* nor *Eidson* disclose or suggest the above recited limitations, particularly the emphasized portion of each. As noted above *Reed* adjusts gain "responsive to said detection signal," and as also noted above, *Eidson* teaches the use of frequency switching, in line 49 and 50 of column 5, to avoid interference above a certain threshold.

For at least the above advanced reasons, Applicant respectfully asserts the combination of *Reed* and *Eidson* fails to teach or suggest all limitations of independent claims 1 and 13. Therefore applicant respectfully asserts that independent claims 1 and 13 are patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 2-12 ultimately depend from independent claim 1 and claims 14-19 ultimately depend from independent claim 13. Thereby each of claims 2-12 and 14-20 inherit all limitations of their respective base claim, 1 or 13. Therefore, for at least the reasons advance above in addressing the rejections of independent claims 1 and 13, each of claims 2-12 and 14-19 sets forth features and limitations not recited by the combination of *Reed* and *Eidson*. Further, in rejecting claim 7, *Sanderford* is not relied upon as teaching any of the above indicated limitations missing from *Reed* and *Eidson;* in rejecting claim 9, *Lempiainen* is not relied upon as teaching any of the above indicated limitations missing from *Reed* and *Eidson*; in rejecting claim 10, *Gutleber* is not relied upon as teaching any of the above indicated limitations missing from *Reed* and *Eidson*; and in rejecting claim 12 *Gould* is not relied upon as teaching any of the above indicated limitations missing from *Reed* and *Eidson*. Thus, Applicant respectfully asserts that for the above reasons claims 2-12 and 14-19 are also patentable over the 35 U.S.C. § 103(a) rejection of record.

b. <u>Claims 20-30</u>

In addressing independent claim 20 (and independent claim 26), the Office Action admits that *Reed* fails to disclose "means for gathering statistical information about RF interference." The Office Action attempts to cure this deficiency by citing *Eidson*, which the Office Action alleges to teach "means for gathering statistical information about RF interference." However, this combination, as presented, does not teach or suggest all limitations of the claimed invention of independent claims 20 and 26.

Independent claim 20 recites "means for monitoring RF interference." Claim 26 recites "a statistics gathering engine collecting periodicity, duration and strength information about RF interference." It appears that the Office Action is relying, at least in part on *Reed* as teaching these limitations. However, as pointed out above the disclosure of *Reed* is directed toward "Spatial Rejection of Direct Blast Interference in Multistatic Sonars" (title). *Reed*

makes no mention of detecting RF interference and nothing in *Reed* would suggest the detection or monitoring of any sort of RF signal or interference.

The Office Action also depends on *Reed* as teaching "means for detecting statistical information about periodicity and duration of RF interference" (emphasis added). However, claim 20 contains no such limitation. Applicant respectfully requests clarification of this portion of the rejection of claim 20 in a non-final Office Action. As noted above, claim 26 does recite "a statistics gathering engine collecting periodicity, duration and strength information about RF interference." Regardless, as also noted above, *Reed* fails to teach anything about detecting a periodicity and/or duration information about the sonar sound interference it does detect. The claims of *Reed* cited by the Office Action only teaches "providing a detection signal indicating the presence of said transient" (column 7, line 10).

As noted above, *Eidson* is relied upon by the Office Action as teaching "means for gathering statistical information about RF interference." However, independent claim 20 recites "means for gathering statistical information about periodicity and duration of said RF interference" (emphasis added). Claim 26 recites "a statistics gathering engine collecting periodicity, duration and strength information about RF interference" A review of *Eidson*, particularly FIGURE 4, indicates that *Eidson* only discloses making a series of measurements of RSSIs and storing those for use in calculating a one time CINR, which is in turn adjusted and compared to a threshold to determine whether a frequency switch is to be made. Thus, *Eidson* fails to teach "gathering statistical information about periodicity and duration of said RF interference" or "a statistics gathering engine collecting periodicity, duration and strength information about RF interference."

Claim 20 also recites "means for controlling said variable gain stage in response to said gathered statistical information to adjust gain of said delayed IF signals mitigating effects of said RF interference on said signals." Claim 26 recites "a response stage adjusting said variable gain stage in response to said periodicity and duration information to mitigate effects of said RF interference on said signals." Applicant respectfully contends that neither *Reed* nor *Eidson* disclose or suggest the above recited limitations. As noted above, the claims of *Reed* cited by the Office Action only teach "providing a detection signal indicating the presence of said transient and a variable gain means responsive to said detection signal for

applying said variable gain to said beamformer output signals" (column 7, lines 10-13). in a sonar, not an RF, environment. Therefore, *Reed* certainly does not teach or suggest "mitigating effects of said RF interference." As also noted above, *Eidson* teaches the use of frequency switching, in line 49 and 50 of column 5, to avoid interference above a certain threshold, not gain control.

For at least the above advanced reasons, Applicant respectfully asserts the combination of *Reed* and *Eidson* fails to teach or suggest all limitations of independent claims 20 and 26. Therefore applicant respectfully asserts that independent claims 20 and 26 are patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 21-25 ultimately depend from independent claim 20 and thereby each of claims 21-25 inherit all limitations of independent claim 20. Claims 27-30 ultimately depend from independent claim 26 and thereby each of claims 27-30 inherit all limitations of independent claim 20. Therefore, for at least the reasons advance above in addressing the rejection of independent claims 20 and 26, each of claims 21-30 and 27-30 sets forth features and limitations not recited by the combination of *Reed* and *Eidson*. Thus, Applicant respectfully asserts that for the above reasons claims 21-25 and 27-30 are also patentable over the 35 U.S.C. § 103(a) rejection of record.

2. <u>The Office Action does not provide the requisite motivation.</u>

In addressing claims 1-19, the Office Action admits that *Reed* does not teach "means for tabulating statistical information about periodicity and duration of RF interference". The Office Action attempts to cure this deficiency by introducing *Eidson*, which the Office Action alleges to teach "means for tabulating statistical information about RF interference". In addressing independent claim 20, the Office Action admits that *Reed* fails to disclose "means for gathering statistical information about RF interference." The Office Action attempts to cure this deficiency by citing *Eidson*, which the Office Action alleges to teach "means for gathering statistical information about RF interference." In both cases, it appears the motivation for making the combination was presented as follows:

> One skilled in the art would have clearly recognized means for tabulating statistical information about periodicity and duration of RF interference would be a well-known technique introduced in many references. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apple the method as taught by Eidson to modify the invention of Reed et al. as a method of avoiding interference.

It is well settled that the fact that references can be combined or modified is not sufficient to establish a prima facie case of obviousness, M.P.E.P. §2143.01. Language such as the operative language of the motivation provided by the Office action, namely "it would have been obvious to one of ordinary skill in the art at the time of invention to apple the method as taught by *Eidson* to modify the invention of Reed et al. as a method of avoiding interference" is merely a statement that the reference can be combined, and does not state any desirability for making the combination. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ.2d 1430 (Fed. Cir. 1990), as cited in M.P.E.P. §2143.01.

Further Applicant respectfully contends that the non-analogous nature of the *Reed* reference and the use of frequency switching by the *Eidson* reference, discussed above, would tend to teach away from the combination much more strongly than the amorphous motivation suggested by the Office Action would suggest their combination, absent the application of impermissible hindsight.

Thus, the motivation provided by the Examiner is improper, as the motivation must establish the desirability for making the combination. Whereas, no valid suggestion has been made as to why a combination of *Reed* and *Eidson* is desirable, the rejection of the claims should be withdrawn.

IV. Conclusion

For all the reasons given above, Applicant submits that the pending claims distinguish over the prior art under 35 U.S.C. §103. Accordingly, Applicant submits that this application is in full condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 06-2380, under Order No. 60783/P002US/10102973 from which the undersigned is authorized to draw.

Applicant respectfully requests that the Examiner call the below listed attorney if the Examiner believes that the attorney can helpful in resolving any remaining issues or can otherwise be helpful in expediting prosecution of the present application.

Dated: January 18, 2005

Respectfully submitted,

By _____

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